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(54) **Mixed resolution printing for colour and monochrome printers**

(57) A printer (10) with mixed base resolution capabilities, having a higher resolution monochrome component such as black and lower resolution components such as cyan, magenta and yellow. The different resolution components are integrated into the same printing mechanism for composite printing of higher resolution black and lower resolution color at the same time. For increased throughput, a higher resolution black print-head (98) has a wider swath.

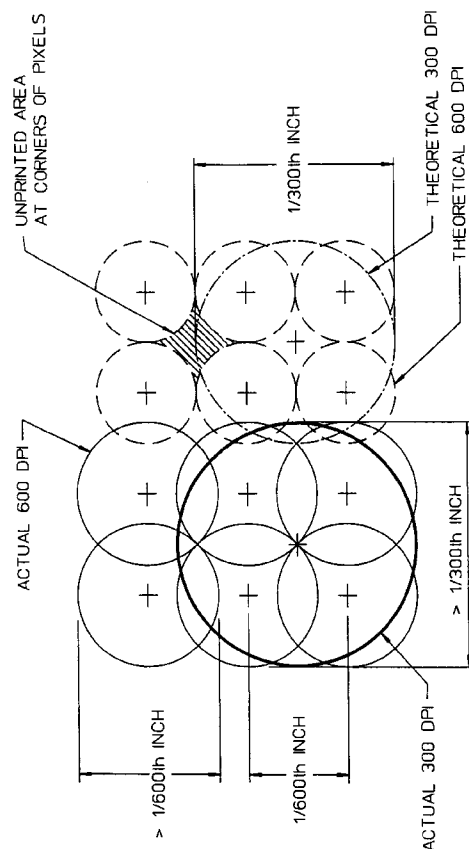


FIG. 12

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EUROPEAN SEARCH REPORT

Application Number
EP 94 30 7806

DOCUMENTS CONSIDERED TO BE RELEVANT			
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (Int.Cl.6)
X	IBM TECHNICAL DISCLOSURE BULLETIN., vol. 23, no. 7A, December 1980 NEW YORK US, pages 2700-2702, 'Dual resolution ink jet drum printer'	1-3	B41J2/21 B41J2/15 B41J2/525
Y		5-7,9	
A		4	
X	--- PATENT ABSTRACTS OF JAPAN vol. 18 no. 25 (M-1542) ,14 January 1994 & JP-A-05 261941 (RICOH) 12 October 1993, * abstract *	1	
A		2-4	
Y	--- WO-A-91 08902 (SPECTRA) * page 9, line 16 - page 10, line 27; figure 3 *	5,9	
A		1-4,10	
A	--- PATENT ABSTRACTS OF JAPAN vol. 10 no. 286 (M-521) [2342] ,27 September 1986 & JP-A-61 104856 (NEC) 23 May 1986, * abstract *	1-4	TECHNICAL FIELDS SEARCHED (Int.Cl.6) B41J
A	--- EP-A-0 481 829 (HEWLETT-PACKARD)		
A	--- WO-A-90 02925 (SPECTRA)		
A	--- US-A-4 750 009 (YOSHIMURA) * column 2, line 58 - column 3, line 12; figure 3 *	5,9,10	
A	* column 3, line 13 - line 37; figure 4A 4B 5A 5B *	6	
	--- -/--		
The present search report has been drawn up for all claims			
Place of search THE HAGUE		Date of completion of the search 28 February 1996	Examiner Adam, E
CATEGORY OF CITED DOCUMENTS X : particularly relevant if taken alone Y : particularly relevant if combined with another document of the same category A : technological background O : non-written disclosure P : intermediate document		T : theory or principle underlying the invention E : earlier patent document, but published on, or after the filing date D : document cited in the application L : document cited for other reasons & : member of the same patent family, corresponding document	

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CLAIMS INCURRING FEES

The present European patent application comprised at the time of filing more than ten claims.

- ☐ All claims fees have been paid within the prescribed time limit. The present European search report has been drawn up for all claims.
- ☐ Only part of the claims fees have been paid within the prescribed time limit. The present European search report has been drawn up for the first ten claims and for those claims for which claims fees have been paid, namely claims:
- ☐ No claims fees have been paid within the prescribed time limit. The present European search report has been drawn up for the first ten claims.

LACK OF UNITY OF INVENTION

The Search Division considers that the present European patent application does not comply with the requirement of unity of invention and relates to several inventions or groups of inventions, namely:

See sheet -B-

- ☒ All further search fees have been paid within the fixed time limit. The present European search report has been drawn up for all claims.
- ☐ Only part of the further search fees have been paid within the fixed time limit. The present European search report has been drawn up for those parts of the European patent application which relate to the inventions in respects of which search fees have been paid, namely claims:
- ☐ None of the further search fees has been paid within the fixed time limit. The present European search report has been drawn up for those parts of the European patent application which relate to the invention first mentioned in the claims, namely claims:



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EUROPEAN SEARCH REPORT

Application Number
EP 94 30 7806

DOCUMENTS CONSIDERED TO BE RELEVANT			
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (Int.Cl.6)
A	PATENT ABSTRACTS OF JAPAN vol. 10 no. 286 (M-521) ,27 September 1986 & JP-A-61 104856 (NEC) 23 May 1986, * abstract *	5,8-10	
A	--- EP-A-0 401 575 (SIEMENS) * the whole document *	5,9,10	
A	--- PATENT ABSTRACTS OF JAPAN vol. 13 no. 528 (M-898) ,24 November 1989 & JP-A-01 216852 (CANON) 30 August 1989, * abstract *	5,8-10	
Y	--- PATENT ABSTRACTS OF JAPAN vol. 18 no. 25 (M-1542) ,14 January 1994 & JP-A-05 261941 (RICOH) 12 October 1993, * abstract *	6,7	
A	--- PATENT ABSTRACTS OF JAPAN vol. 13 no. 514 (M-894) ,17 November 1989 & JP-A-01 208143 (CANON) 22 August 1989, * abstract *	8	
A	--- US-A-5 208 605 (DRAKE) * column 3, line 40 - line 58; figure 1 *	8	
A	--- US-A-5 012 257 (HEWLETT PACKARD) -----	6,8-10	
The present search report has been drawn up for all claims			TECHNICAL FIELDS SEARCHED (Int.Cl.6)
Place of search THE HAGUE		Date of completion of the search 28 February 1996	Examiner Adam, E
<p>CATEGORY OF CITED DOCUMENTS</p> <p>X : particularly relevant if taken alone Y : particularly relevant if combined with another document of the same category A : technological background O : non-written disclosure P : intermediate document</p> <p>T : theory or principle underlying the invention E : earlier patent document, but published on, or after the filing date D : document cited in the application L : document cited for other reasons & : member of the same patent family, corresponding document</p>			

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LACK OF UNITY OF INVENTION - A POSTERIORI -

The Search Division considers that the present European patent application does not comply with the requirement of unity of invention and relates to several inventions or groups of inventions, namely:

1. Claims 1-4: Mixed resolution printer with first black printhead having a higher resolution than a second color printhead
2. Claims 5,9,10: First black printhead having a wider printing swath than the second color printhead
3. Claim 6: Nozzle pitch of first printhead less than nozzle pitch of second printhead
4. Claim 7: First printhead including a color component different from a color component of the second printhead
5. Claim 8: Mounting means for mounting the first and second printheads to produce at least partially overlapping print swaths